

41547

S/136/62/000/010/004/004

E194/E435

11.3900

AUTHORS: Polishchuk, V.P., Tsin, M.R.

TITLE: Electromagnetic pumping of non-metallic melts

PERIODICAL: Tsvetnyye metally, no.10, 1962, 82-83

TEXT: For pumping molten salts, which are used in non-ferrous metallurgy, mechanical pumps cannot be used due to the high temperatures involved; electromagnetic pumps cannot be used because the molten salts have inadequate electrical conductivity; airlift pumps are used but are unsatisfactory. The Institut liteynogo proizvodstva AN UkrSSR (Institute of Foundry Production UkrSSR) has developed a pump for this purpose in which molten metal driven by an electromagnetic pump acts as a piston to drive the molten salts. With the pump inactive the molten metal fills the bottom of the salt bath and the base of the annular pump nearly to the level of the molten salt inlet port. When the pump is switched on the rising metal first cuts off the salt inlet port and then drives the molten salt in the pump body upwards. Double acting pumps can be used having two pump bodies connected to a common reservoir of molten metal so that one body is pumping whilst the
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L 23339-65 EPF(n)-2/EPR/EPA(s)-2/EWT(1)/EWT(m)/EPA(bb)-2/T-2/EWP(b)/EWP(t) Ps-4/
ACCESSION NR: AP5001336 Pt-10/Pu-4 IJP(c) S/0128/64/000/012/0022/0022
WW/JD/JG

AUTHOR: Polishchuk, V. P. (Candidate of technical sciences); Yakovlev, V. S.
(Engineer)

TITLE: Channelless magnetodynamic immersion pump²¹ for liquid metals 16 13+1

SOURCE: Liteynoye proizvodstvo, no. 12, 1964, 22

TOPIC TAGS: magnetodynamic pump, electromagnetic pump, magnetodynamic pouring,
aluminum alloy casting, zinc alloy casting, magnesium alloy casting, liquid metal
pump 21

ABSTRACT: A magnetodynamic pump developed at the Institut problem lit'ya AN USSR
(Casting problems institute, AN UkrSSR) is illustrated and described in detail.
The pump operates with an applied voltage of 220 V and an induced voltage in the
liquid metal of 380 V. It may be used for zinc, aluminum and magnesium alloys at
working temperatures of 650-680C. An advantage of this pump is that the level of
metal in the furnace does not affect the size of the batch delivered since the
pump drops as the level goes down. Because of its simplicity, this pump rivals
known electromagnetic batchers. It is currently being introduced at the Kiyevskiy
zavod nestandartnogo tekhnologicheskogo oborudovaniya (Kiev nonstandard technical

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ACCESSION NR: AP5001336

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equipment factory). Orig. art. has: 3 figures.

ASSOCIATION: None

SUBMITTED: 00

ENCL: 00

SUB CODE: MM, IE

NO RIF SOV: 000

OTHER: 000

Card 1/2

L 1391-06 EPA(s)-2/EWT(m)/EPF(n)-2/EWP(t)/EWP(b) IJP(c) JD/WW/JG

ACCESSION NR: AP5016662

UR/0382/65/000/002/0139/0144
669.16 : 538.4

AUTHOR: Aronova, N. R.; Folishchuk, V. P.; Tsin, M. R.

48
B

TITLE: Electromagnetic mixing of liquid metals by pulsed fields

SOURCE: Magnitnaya gidrodinamika, no. 2, 1965, 139-144

TOPIC TAGS: liquid metal, electromagnetic mixing, MHD flow

ABSTRACT: The Institute of Foundry Problems AN UkrSSR has reviewed the methods of liquid metal mixing and has concentrated its effort on the study of utilization of electromagnetic forces for this purpose. Simpler variants of these devices have been studied extensively and the conclusions are reported. Turbulent mixing is achieved by use of E- and O-type electromagnets. The electromagnetic forces lead to very strong mixing especially when the metal trough is not completely filled. Transparent channels were used to observe the behavior of a test metal (mercury) in the mixing chamber. The efficiency of energy transfer reaches about 90% and does not depend strongly on the wall thickness, thus making this method suitable for high temperature operation. Experiments with single phase mixers did not

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ACCESSION NR: AP5016662

permit any wide variation of parameters. A new magnetodynamic device has been constructed and studied to mix mercury and water or powder-like substances. Various mixing regimes were observed by changing relative phases between the mixer magnets. The main advantages of the new system, which is suitable for admixing any material, are the small electric losses. Heat losses during the flow through the mixer are compensated and some additional heating may occur due to currents flowing in the mixed metals. Orig. art. has: 4 figures.

ASSOCIATION: none

SUBMITTED: 07Jan65

ENCL: 00

SUB CODE: MM, ME

NO REF SOV: 002

OTHER: 000

Card 2/2

POLISHCHUK, V.S.

Technology of aluminum nitride production. Zhur. prikl. Khim.
36 no.5:1142-1143 My '63. (MIRA 16:8)

(Aluminum nitrides)

ACCESSION NR: AP4043769

S/0080/64/037/008/1828/1830

AUTHOR: Dubovik, T. V.; Polishchuk, V.S.; Samsonov, G. V.

TITLE: Derivation of magnesium nitride

SOURCE: Zhurnal prikladnoy khimii, v. 37, no. 8, 1964, 1828-1830

TOPIC TAGS: magnesium, nitride, nitration agent, ammonia, nitrogen

ABSTRACT: The authors conduct a technological study of conditions for obtaining magnesium nitride using nitrogen and ammonia as nitration agents. The initial material consisted of magnesium chips measuring 0.1-0.2 mm. Nitration took place in porcelain vessels placed in a quartz reactor. Nitration was conducted at temperatures from 200 to 1000°C over a period of 15 minutes to 4 hours for each temperature. The results of the experiment showed that nitration begins during the distillation of nitrogen through magnesium over a period of 30 minutes at 250°C. Nitration reaches its peak at 800°C over a period of 4 hours. At higher temperatures the nitrogen content drops sharply. The authors concluded that attempts to nitrate magnesium with ammonia have yielded much poorer results, which is apparently related to the fact that magnesium nitride converts easily into hydride and

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L 1115-63

EWP(q)/EWT(m)/BDS AFFTC/ASD JD/WH/HW-2/JG

ACCESSION NR: AP3002706

S/0080/63/036/005/1142/1143

AUTHOR: Polishchuk, V. S.58
57TITLE: Concerning the preparation of aluminum nitride

SOURCE: Zhurnal prikladnoy khimii, v. 36, no. 5, 1963, 1142-1143

TOPIC TAGS: AlN, technical-grade AlN, preparation, nitridation

ABSTRACT: Nitridation of Al powder to form AlN, a compound which exhibits good refractory, abrasive, and dielectric properties, was accomplished for the first time by a one-step high-temperature process instead of the conventional two-step process. A 100-g charge, consisting of PP-1 aluminum powder and 30 to 70% of presynthesized AlN (32.2% N), was nitrided in a molybdenum boat with nitrogen at 900C for 2.5 hr in a nickel reactor (8 hr required to heat to 900C). The presence of AlN in the charge was to prevent excessive sintering and to increase the nitridation surface area. A 30% AlN content was sufficient to produce a uniform, porous, and easily powdered technical-grade AlN. Efforts to increase the yield by decreasing the AlN content of the charge produced a dense, hard product with low nitrogen content. Experiments with 800-g 30%-AlN charges treated at 1200C for 1 hr also produced technical-grade AlN with satisfactory

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L 10115-63

ACCESSION NR: AF3002706

nitrogen content. No apparent damage to the boat or reactor was observed after four cycles of nitridation at 1200C. The new method makes it possible in one step to prepare technical-grade AlN of satisfactory composition but with a smaller technical yield, owing to the recycled 30% AlN holdup, than can be obtained from the two-step process. "The author expresses gratitude to G. V. Samsonov for his suggestions and help in the present study." Orig. art. has: 2 tables.

ASSOCIATION: none

SUBMITTED: 17Aug62

DATE ACQ: 24Jul63

ENCL: 00

SUB CODE: 00

NO REF SOV: 002

OTHER: 001

Card 2/2

L 61 075-65 EFF(n)-2/EWP(k)/EWP(z)/EWT(m)/EWP(i)/EWG(m)/EWP(b)/EWP(e)/EWP(t) Pf-4/
Ps-4/Pu-4 IJP(c) AT/WH/WW/JD/JG

ACCESSION NR: AP5018279

UR/0226/65/000/007/0100/0107

AUTHOR: Polishchuk, V.S.

TITLE: Experience in the preparation of refractory compounds under industrial conditions

SOURCE: Poroshkovaya metallurgiya, no. 7, 1965, 100-107

TOPIC TAGS: carbide, nitride, boride, sulfide, refractory compound

ABSTRACT: The author reviews the experience of the Donets Chemical Reagent Plant in the production of refractory materials. In the production of carbides and borides, wet granulation of the charge has been adopted to replace the dry pressing ¹⁶user earlier. Owing to the high gas permeability of the charge, the carbides and borides obtained from a charge with granules 10 mm in average diameter form a product with homogeneous quality, and the two stages usually involved in the preparation of titanium carbide and zirconium carbide can be reduced to a single stage. By utilizing the high mobility of the granulated charge, an automatic, semicontinuous, vacuum electric furnace has been developed for the synthesis of metal carbides. The output of devices producing metal nitrides by heating metal powders in nitrogen is very limited because of marked sintering, and in some cases fusion, of the metal. The charge can be considerably

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L 61075-65

ACCESSION NR: AP5018279

increased, particularly in the preparation of magnesium nitride or aluminum nitride (up to 4-5 kg), by adding 30-40% of a nitride obtained earlier to the metal powder being nitrified. A quartz reactor for the continuous preparation of metal nitrides from metal powders has been developed and adopted. Its output is approximately 50 times greater than that of a batch-operated device of the same capacity. Orig. art. has: 3 figures, 3 formulas and 4 tables.

ASSOCIATION: none

SUBMITTED: 25Mar64

ENCL: 00

SUB CODE: MM, MT

NO REF SOV: 066

OTHER: 001

Cor

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2/2

BRAGINSKIY, L.P.; POLISHCHUK, V.V.

First Conference of the All-Union Hydrobiological Society in the
Ukrainian S.S.R. Gidrobiol. zhur. 1 no.1:80 '65.

(MIRA 18:5)

GURVICH, V.V. [Hurvyeh, V.V.]; POLISHCHUK, V.V.

Materials for studying micro- and macrobenthos as a single
bottom cenosis. Dop. AN URSR no.7:939-941 '65.

(MIRA 18:8)

1. Institut gidrobiologii AN UkrSSR.

UMANSKIY, N.A., inzh.; POLISHCHUK, V.V., inzh.

Aerodynamic attachment to a wool carder. Khim.mashinostr. no.3:
43-45 My-Je '63. (MIRA 16:11)

FOLISHCHUK, V.V.; CHERNOUSOVA, V.M.; SHTITEL'MAN, Ye.P.

Hydrobiological and hydrochemical characteristics of the Shostka River and the effect of its pollution on the Desna River. Vop. ekol. 5:173-174 '62. (MIRA 16:6)

1. Institut gidrobiologii AN UkrSSR, Kiyev.
(Shostka River (Ukraine)--Freshwater fauna)
(Desna River--Freshwater fauna)
(Water--Pollution)

DANILOVA, L. Ye. [Danylova, L.IE.]; POLISHCHUK, V.V.

Plankton of Lake Sitovoye in the Gel'myazov region, Poltava
Province. Visnyk Kyiv. un. no. 5. Ser. biol. no.1: 105-114.
'62. (MIRA 16:5)

(SITOVoyE, LAKE (POLTAVA PROVINCE)—PLANKTON)

POLISHCHUK, V.V.; SHERSTYUK, V.V.

Materials on the food of perch (*Perca fluviatilis*) in the middle reaches of the Dnieper River. Dop. AN URSR no. 114-117 '62. (MIRA 15:2)

1. Institut gidrobiologii AN USSR. Predstavleno akademikom AN USSR A.P. Markevichem [Markevych, O.P.]
(Dnieper River—Perch)
(Fish—Food)

POLISHCHUK, YA.

Athletics - Caucasus, Northern

In the cossack village of Dinsk Mol. kolkh. 19 no. 5 May 1952

Monthly List of Russian Accessions, Library of Congress, August, 1952. UNCLASSIFIED.

POLISHCHUK, YA.

Horsemanship

Don horsemen. Mol. kolkh. 19 No. 6, 1952

Monthly List of Russian Accessions. Library of Congress, August 1952, Unclassified

POLISHCHUK, Yan.

The rental system with a dent; feuilleton-report. Sov.profsoiuzy
18 no.14:32-34 JI '62. (MIRA 15:7)
(Barnaul—Renting of equipment, etc.)

GRUNSKIY, F.; DVORKIN, L; KUKSA, I. starshiy master; POLISHCHUK, Ya.
CHEKHOVSKOY, M.

Information. Prof.-tekhn.obr. 15 no.1:32-33 Ja '58. (MIRA 11:1)

1.Direktor blagodarnenskogo uchilishcha mekhanizatsii sel'skogo
khozyaystva No.3 (for Grunskiy). 2.Nachal'nik otdela uchilishch i
shkol Permskogo oblastnogo upravleniya trudovykh rezervov (for
Dvorkin). 3. Zamestitel' direktora tekhnicheskogo uchilishcha No.9
(for Polishchuk). 4. Baku, Dom kul'tury trudovykh rezervov (for
Chekhovskoy)

(Technical education)

RASIN, Semen Davidovich, doktor med.nauk; POLISHCHUK, Y.A.,
doktor med.nauk.

[Alcoholism and psychoneuroses] Alkoholizm i nervove-
psychichni khvory. Kyiv. 1959. 37 p. (MIRA 12:7)
(ALCOHOLISM)

L 5955 4-65 EWT(d)/EWT(m)/EWP(v)/EWP(t)/EWP(k)/EWP(h)/EWP(b)/EWP(1) Pf-4 JD
 ACCESSION NR: AR5012844 UR/0137/65/000/003/B016/B016

SOURCE: Ref. zh. Metallurgiya, Abs. 3B102

AUTHOR: Gitgarts, D. A. ; Polishchuk, Ya. A. ; Kolganov, Ye. P.

TITLE: Automation of the control system for electrical conditions in induction melting electric furnace IAT-6

CITED SOURCE: Elektrotermiya. Nauchno-tekhn. sb., vyp. 38, 1964, 11-12

TOPIC TAGS: induction melting, electric furnace, induction furnace, power control, power equipment, power transformer, power consumption, high frequency current, automatic control system, automatic regulation, current control, voltage control, IAT-6 induction furnace

TRANSLATION: Induction melting electric furnaces are used for melting ferrous and nonferrous metals and are fed by single phase step-up transformers. During the melting period, constant correction of conditions is required to prevent over-

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L 59554-65

ACCESSION NR: AR5012844

loading and to achieve the highest capacity. In induction melting electric installations fed by high frequency current from electric generators, the Kalininsk electrical apparatus plant has installed an automatic regulator which, however, is not suitable for installations operating on an industrial frequency. The new regulator developed by VNIETO for IAT-6 installations, assures interconnected control of the voltage, current, and power factor, and maintains the maximum effective power over the whole time of melting. The accuracy of regulation of the power factor by the automatic regulator is not less than 4-5%. Control of current and voltage is done automatically by switching in step transformers for the voltage and also by automatic variation of the power factor. The automatic regulator maintains the power factor at 0.88-0.92 for small currents and at 0.97 - 1.0 for currents close to the rated value. Introduction of the tested automatic regulator in an IAT-6 installation gives a 5% increase in capacity and a 10% reduction of specific power consumption. The annual economic saving in a IAT-6 is 5000 roubles. In 1965 the regulator will be mass produced in the Kalininsk electrical apparatus plant. (From R. Zh. Elektrotehnika).

SUB CODE: MM, EE ENCL: 00

Card 2/2 *llc*

GITGARTS, D.A., inzh.; POLISHCHUK, Ya.A., inzh.; KOLGANOV, Ye.P., inzh.

Automatic regulator for induction smelting systems using commercial frequencies. Elektrotehnika 36 no.5:30-32 My '65.

(MIRA 18:5)

GITGARTS, Dmitriy Abramovich; FOLISHCHUK, Yanina Aleksandrovna;
EDEMSKIY, V.M., red.

[Automatic control of induction-heated melting furnaces]
Avtomaticheskoe regulirovanie induktsionnykh plavil'nykh
ustanovok. Moskva, Energiia, 1965. 78 p. (Biblioteka
elektrotermista, no.24) (MIRA 18:7)

POLISHCHUK, Yan Azarovich; ANTIPINA, L., red.; KONYASHINA, A., tekhn.red.

[For each and every one] Dlia vsekh i dlia kazhdogo. Moskva,
Izd-vo TsK VLKSM "Molodaia gvardiia," 1959. 117 p.

(MIRA 13:12)

(Russia--Economic conditions)

(Russia--Social conditions)

PO LISHCHUK, Ya.A., inzh.; BRUDNYY, B.P., inzh.

Automatic power regulator for charge resistance furnaces. Biul.
TSNIICHM no.7:7-11 '58. (MIRA 11:6)
(Electric furnaces) (Governors (Machinery))

S/110/60/000/012/003/004
E041/E421

AUTHORS: Polishchuk Ya. A., Engineer, Treyzon, Z. L., Engineer,
Kalinin, A. V., Engineer and Brudnyy, B. P., Engineer

TITLE: Automatic Controller for the Operation of a High
Frequency Melting Furnace

PERIODICAL: Vestnik elektromyshlennosti, 1960, No. 12, pp. 54-57

TEXT: The fundamental parameter to be regulated is the power factor. The natural power factor is inductive and equal to 0.1 to 0.2. To obtain the best output from the generator, a capacitive power factor of the order of 0.9 is preferred. The correction of the power factor is achieved by a battery of capacitors. Switching in the capacitors has a significant effect on the voltage of the system, e.g. increasing the capacitance by 3% increases the generator voltage by as much as 12%. It is therefore necessary to control the excitation current of the generator. The overall scheme has three separate regulators: a power factor regulator, a voltage regulator with current limit and a circuit for automatically changing over the electrical connections to the generator. The capacitors are arranged in 5 sets, the value of each set being twice that of the preceding one. It is thus

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POLISHCHUK, YE.

Bruegellov, Karl Pavlovich 1739-1852

Eminent Russian Artist. Mol. kolkh. 19, no. 6, 1952

Monthly List of Russian Accessions, Library of Congress August 1952 UNCLASSIFIED

SHISHKIN, I. I.; POLISHCHUK, YE.

Painters:

Rabotnitsa 31, No. 3, 1953.

SO: Monthly List of Russian Accessions, Library of Congress, June 1953, Uncl.

PETROV, V.V.; KOVAN'KO, A.G.; TSEYTIM, G.; POLISHCHUK, Ye.

Corrections to the article "Method of least squares and its
extremal properties " (U.M.N. 9 no.1, 1954, p.41-62). Usp. mat.
nauk 11 no.2:250-251 Mr-Apr '56. (MLRA 9:8)
(Least squares)

POLISHCHUK, YE. M.
Transactions of the 6th Conf. on Probability Theory and Mathematical Statistics and
of the Symposium on Distributions in Infinite-Dimensional Spaces held in Vil'nyus,
5-10 Sep '60. Vil'nyus Gospolitizdat Lit SSR, 1962. 493 p. 2500 copies printed

- 77. Mitrofanova, N. M. On a Nonparametric Problem of Mahalanobis 409
- 78. Stratonovich, R. I. On the Final Probabilities of Continuous Conditional Markov Processes 411
- 79. Frolov, A. S., and N. N. Chentsov. Use of Dependent Tests in the Monte Carlo Method for Obtaining Smooth Curves 425
- 80. Eydel'vant, M. I. On the Publication of Tables of a Hypergeometric Distribution 439

SYMPOSIUM ON DISTRIBUTIONS IN INFINITE-DIMENSIONAL SPACES.

- 81. Polishchuk, Ye. M. Normal Distribution and Laplace and Poisson Equations in a Hilbert Space 443
- 82. Sazonov, V. V. Some Remarks on Characteristic Functionals of Generalized Measures 449

Card 16/17

POLISHCHUK, Ye.M.

The Fourier-Gateau integral. Sib. mat. zhur. 6 no.4:881-891 J1-Ag
'65. (MIRA 18:10)

S/041/63/015/001/001/009
B187/B102

AUTHOR: Polishehuk, Ye. M. (Leningrad)

TITLE: Differential equations with functional parameters

PERIODICAL: Ukrainskiy matematicheskiy zhurnal, v. 15, no. 1, 1963, 13-24

TEXT: The author studies a differential equation of the form

$$y^{(m)} = f(t, y', \dots, y^{(m-1)}) \varphi(x_1(t), \dots, x_p(t)), \quad (1)^*$$

with t as independent and $y(t)$ as dependent variables. With respect to the functions f and φ and their derivatives certain conditions are made concerning definiteness, boundedness and continuity and the existence of an integral $y = Y[x_1, \dots, x_p; t]$ of (1) is postulated. It is shown that if the conditions postulated are fulfilled, and if φ satisfies the differential equation

$$\sum_{s=1}^p a_s \frac{\partial^2 \varphi}{\partial x_s^2} = 0 \quad (A)$$

with constant a_s , then the integral $Y[x_1, \dots, x_p; t]$ of the equation (1)

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S/041/63/015/001/001/009
B187/B102

Differential equations with ...

when the $x_s(t)$ are varied in admissible domains G_s , considered as the function of the $x_s(t)$, satisfies a functional equation:

$\sum_{s=1}^n a_s \Delta_s Y = 0$. Here Δ_s denotes a partial Laplace functional operator

with respect to the function x_s . This theorem is extended so that the differential equation (A) also comprises terms of the first order. If $Y[x;t]$ is an integral of an equation of the form:

$$y^{(m)} = f_1(t, y, y', \dots, y^{(m-1)})x(t) + f_2(t, y, y', \dots, y^{(m-2)}) \quad (9)$$

then, with variation of x in the domain G , Y satisfies the functional equation $\Delta Y = 0$, i.e., to each t it is a functional harmonic with respect to x . As an example it is shown that the functionals $\tilde{R}[x;t]$ and $\tilde{S}[x;t]$ are harmonic for the integrals of the Ricatti and Schwarz differential equations

$$R' + R^2 = x(t), \quad (10)$$

$$\frac{S'''}{S'} - \frac{3}{2} \left(\frac{S''}{S'} \right)^2 = x(t). \quad (11)$$

It is proved that if the function ϕ satisfies the equation

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Differential equations with ...

S/041/63/015/001/001/009
B187/B102

$\sum_{s=1}^p a_s \frac{\partial^2 \varphi}{\partial x_s^2} + \lambda \varphi = 0$, then the functional $Y [x_1, \dots, x_p; t]$ satisfies the equation $\sum_{s=1}^p a_s \Delta_s Y + \lambda Y = 0$ when x_1, \dots, x_p are varied.

Functionals which satisfy this equation are also found in the theory of the Laguerre functions (Ye.M. Polishchuk: Normal distribution and Laplace equation in the functional space, Tr. 6-go Vsesoyuzn. soveshchaniya po teorii veroyatnostey, Vil'nyus, 1962, 427 - 431).

SUBMITTED: September 29, 1960

Card 3/3

L 38:09-66 EWT(1)/EWT(m)/EWP(j)/I RM/WW

ACC NR: AP6014528

SOURCE CODE: UR/0199/65/006/006/1322/1331

AUTHOR: Polishchuk, Ye. M.

ORG: none

TITLE: Functional analogs of thermal conductivity equations

SOURCE: Sibirskiy matematicheskiy zhurnal, v. 6, no. 6, 1965, 1322-1331

TOPIC TAGS: Hilbert space, initial value problem, boundary value problem, Volterra equation, integral equation, Laplace equation, Poisson equation

ABSTRACT: It is shown that the basic classical problems of the theory of thermal conductivity with initial and boundary conditions correspond to the dual problems for the equations $\Delta u = 0$, $\Delta u = Q$ in a functional space. This work is a continuation of earlier work of Ye. M. Polishchuk (O funktsional'nom laplasiane i uravneniyakh parabolicheskogo tipa, Uspekhi matem. nauk, 19, No. 2 (1964), 30-38). The first problem is that of finding a set of functionals $H[x|R]$ which satisfies the conditions

a) $\Delta H = 0$ when $x \in G$;

$\lim_{x \rightarrow 0} H[x|R] = \omega_1(R)$,

b) $\lim_{x \rightarrow \infty} H[x|R] = \omega_2(R)$

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UDC: 513.881

ACC NI: AP6014528

$\gamma) H[x|R] = 0$ when $\|x\| = R$,
at any fixed R ($0 < R < \infty$). The problem is soluble, and $H[x|R]$ can be represented as

$$H[x|R] = \int_a^b du \int_0^T \frac{\varphi(\tau)}{2k\sqrt{\pi}(T-\tau)^{3/2}} x(u) \exp\left(-\frac{x^2(u)}{4k^2(T-\tau)}\right) d\tau - \\ - \int_a^b du \int_0^T \frac{\psi(\tau)}{2k\sqrt{\pi}(T-\tau)^{3/2}} (x_0(u) - x(u)) \exp\left(-\frac{(x_0(u) - x(u))^2}{4k^2(T-\tau)}\right) d\tau,$$

$$T = T[x] = 1/2(R^2 - \|x\|^2),$$

$$k^2 = (b-a)^{-1},$$

where φ, ψ are continuous functions which are a solution of a system of Volterra integral equations with kernels that are functions of the difference between the independent variables and which have singularities of order $(t-\tau)^{-3/2}$. The second problem is to find a set of functionals $H[x|R]$ which satisfies the conditions

$$\alpha) \Delta H = 0, x \in G; \beta_1) \lim_{x \rightarrow 0} H[x|R] = \omega_1(R);$$

$$\beta_2) \lim_{x \rightarrow \infty} H[x|R] = \omega_2(R); \gamma) H[x|R] = 0 \text{ when } \|x\| = R.$$

The solution of this problem can be represented as

L 33309-66

ACC NR: AP6014528

$$H = \int_a^b du \int_0^T \frac{\varphi(\tau)}{2k\sqrt{\pi}(T-\tau)^{3/2}} x(u) \exp\left(-\frac{x^2(u)}{4k^2(T-\tau)}\right) d\tau +$$

$$+ \int_a^b du \int_0^T \frac{k\psi(\tau)}{\sqrt{\pi}\sqrt{T-\tau}} \exp\left(-\frac{(x_0(u)-x(u))^2}{4k^2(T-\tau)}\right) d\tau,$$

where φ, ψ are functions which are a solution of a system of Volterra equations with kernels which are functions of the difference between the independent variables and which have singularities of order $(t-\tau)^{-1/2}$ and $(t-\tau)^{-5/2}$. Solution of the latter problem reduces to the examination of one integral equation. The problems can be extended in various directions. Orig. art. has: 16 formulas.

SUB CODE: 20/ SUBM DATE: 03Jul64/ ORIG REF: 003

Card 3/3

IOLISHCHUK, Ye.M.

Functional orthogonal on a sphere; a generalization of harmonic analysis. Sib.mat.zhur. 4 no.1:187-205 Ja-P '63.

(MIRA 16:2)

(Functional analysis)

POLISHCHUK, Ye.M. (Leningrad)

Differential equations with functional parameters. Ukr. mat.
zhur. 15 no.1:13-24 '63. (MIRA 16:3)

(Differential equations)

POLISHCHUK, Ye. M.

"The Exponential Representation of the Elements of a
Semi-Simple Complex Lie Group," Matemat. Sbor., 24,
No. 2, 1949. Vladivostok, -cl947-.

POLISHCHUK, Ye. M.

Polishchuk, E. M. On the exponential representation of the elements of a semisimple complex Lie group. Mat. Sbornik N.S. 24(66), 237-248 (1949). (Russian)
 Let G be a complex semisimple Lie group, A its adjoint group, and $L(A)$ the latter's Lie algebra. The author's main theorem asserts that any $a \in A$ can be written in the form $a = be^u$, where $b \in A$, $u \in L(A)$, b and e^u commute, and $b^m = 1$ with m independent of a . The proof makes heavy use of the results and methods of Gantmacher [Rec. Math. [Mat. Sbornik] N.S. 5(47), 101-146 (1939); these Rev. 1, 163]. From this theorem it follows that, for a suitable integer n , all n th powers of elements of G are representable as exponentials. The smallest value for this integer n is examined for each of the simple groups (including the exceptional ones).
 I. Kaplansky (Chicago, Ill.).

Source: Mathematical Reviews,

Vol 10, No. 10

POLISHCHUK, Ye. M.

Polishchuk, E. M. On the mean value of a functional.
Uspehi Mat. Nauk 10, no. 2(64), 179-186 (1955).

T-F/W

(Russian)

For each $t \in [0, 1]$ suppose that $a(t) < b(t)$, let $x(t)$ be a random variable uniformly distributed on the interval

$[a(t), b(t)]$, and let the random variables of the family $\{x(t), 0 \leq t \leq 1\}$ be mutually independent. Certain functionals defined on the space of continuous functions on $[0, 1]$, with values between $a(t)$ and $b(t)$ at each point t can be defined in terms of the values of the functions on a countable dense subset of $[0, 1]$. From this point of view, the functionals are then functions of the above random variables, and their mean values can be defined as their expectations. It is shown that, for a simple class of functionals, the functional itself is, in an appropriate sense equal to its mean value with probability 1. The mean value is compared with the "Lebesgue integral" of the functional, defined like the mean value except that the measure of a subset of the interval $[a(t), b(t)]$ is now taken as the Lebesgue measure of the subset, instead of this measure divided by $b(t) - a(t)$.

J. L. Doob (Urbana, Ill.).

POLISHCHUK, Ye.M.

The functional Laplacian and parabolic equations. Usp.mat.
nauk 19 no. 2:155-162 Mr-Apr '64.

Linear equations in functional Laplacians. Ibid.:163-170
(MIRA 17:6)

PO. ISHCHUK, Ye. M.

✓ Poliščuk, E. M. The mean value and integral of a functional. Ukrain. Mat. Ž. 8 (1956), 59-75. (Russian)

Let a, b be continuous functions on $[0, 1]$ with $a(t) < b(t)$, and let C be the class of continuous functions x on $[0, 1]$, with $a(t) < x(t) < b(t)$. Let F be a function on C which can be expressed as a limit of the form

$$\lim_{n \rightarrow \infty} \Phi_n[x(t_1^n), \dots, x(t_{k_n}^n)],$$

where $t_i^n \leq t_{i+1}^n$ and $\max_i (t_{i+1}^n - t_i^n) \rightarrow 0$. Then the integral of F on C is defined as the limit (if it exists) of the integral of Φ_n over the k_n dimensional interval defined by $a(t_i^n) \leq x_i^n \leq b(t_i^n)$, $i \leq k_n$. The mean value MF of F is defined as the limit (if it exists) of the average value of Φ_n on this interval. These quantities are evaluated in various cases. For example, MF is found when F is given by

$$\int_0^1 \dots \int_0^1 H(x(t_1), \dots, x(t_p); t_1, \dots, t_p) dt_1 \dots dt_p.$$

In an appropriate sense it is shown that, in this example, $F = MF$ almost everywhere on C , and the integral of F has the form $\text{const } MF$, where the constant is arbitrary, depending on the choice of the t_j^n . J. L. Doob (Geneva).

POLISHCHUK, Ye.M.

On groups which do not change the mean value of functionals
[with summary in English, p.212]. Vest.Len.un. 12 no.1:175-179
'57. (MLRA 10:5)

(Functional analysis)
(Groups, Theory of)

POLISHCHUK, Ye.M.

Metrical properties of isogeneous functionals and vector fields
[with summary in English]. Vest. LGU 12 no.13:27-49 '57.
(MIRA 10:11)

(Functional analysis)

POLISHCHUK, Ye.M.

Expansion of continuous averages by the exponents of a functional
Laplacian. Sib.mat.zhur. 3 no.6:852-869 N-D '62. (MIRA 15:11)
(Functional analysis)

ACCESSION NR: AP4031755

S/0042/64/019/002/0155/0162

AUTHOR: Polishchuk, Ye. M.

TITLE: The functional Laplacian and parabolic equations

SOURCE: Uspekhi matematicheskikh nauk, v. 19, no. 2, 1964, 155-162

TOPIC TAGS: functional Laplacian, parabolic equation, Laplace operator, Brownian motion, spherical averaging, Laplace equation, Poisson equation

ABSTRACT: Functional Laplacians are continuous analogs of the Laplace operator in finite-dimensional spaces. The author uses continuous spherical averaging for solving the boundary value problems in this paper. He shows that Laplace and Poisson equations in functional space

$$\Delta F = 0, \quad (1)$$

$$\Delta F = Q, \quad (2)$$

are closely related to parabolic equations in finite-dimensional spaces. Hence he obtains a new and very simple method for solving the boundary value problems for (1), (2). The boundary value problem for (1) is analogous to the heat equation

Card 1/3

ACCESSION NR: AP4031755

$\frac{\partial f}{\partial t} = \Delta f$ in the unbounded space E_n of the variables x_1, \dots, x_n . To the exterior problem in L_2 corresponds a direct heat equation in E_n , and to the interior problem in L_2 , the inverted heat equation. The same is true for (2), except that the inhomogeneous heat equation corresponds to it in E_n . The following theorem is illustrative: If the functional F on the set V can be represented in the form of

the sum of an absolutely and uniformly converging series $F = \sum_{n=1}^{\infty} F_n$, where $F_n[x] = \int_{Q_n} g_n(x(u), u) du$, and the generating functions $g_n(\xi, u)$ of the functionals

F_n for each n are bounded and continuous on $E_n \times Q_n$, then the functional $H = \sum_{n=1}^{\infty} H_n$,

where

$$H_n[x] = \left(\frac{1}{2\sqrt{\pi T|x|}} \right)^n \int_0^1 \dots \int_0^1 du_1 \dots du_n \int_{-\infty}^{\infty} \dots \int_{-\infty}^{\infty} g_n(\xi_1, \dots, \xi_n; u_1, \dots, u_n) \times \quad (3)$$

$$\times \prod_{k=1}^n \exp \left(-\frac{(x(u_k) - \xi_k)^2}{4T|x|} \right) d\xi_1 \dots d\xi_n.$$

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ACCESSION NR: AP4031755

is a solution of the problem $\Delta H = 0, x \in V; H = F, x \in S; S \in \{s\}$. Orig. art. has:
20 formulas.

ASSOCIATION: none .

SUBMITTED: 01Jun61

DATE ACQ: 30Apr64

ENCL: 00

SUB CODE: MA

NO REF SOV: 005

OTHER: 002

Card 3/3

ACCESSION NR: APL031756

s/0042/64/019/002/0163/0170

AUTHOR: Polishchuk, Ye. M.

TITLE: Linear equations in functional Laplacians

SOURCE: Uspekhi matematicheskikh nauk, v. 19, no. 2, 1964, 163-170

TOPIC TAGS: functional Laplacian, functional Laplace operator, nonlinear equation, entire function, Laplace equation, Poisson equation, harmonic functional

ABSTRACT: Let Δ be a functional Laplace operator, P_1, \dots, P_m, Q be given functionals, and let F be an unknown functional. Let capital letters generally denote functionals, small letters -- their arguments; in square brackets. It can be shown that functionals satisfying equations of the form

$$\Delta^m F + P_1[x] \Delta^{m-1} F + \dots + P_m[x] F = Q[x]. \quad (1)$$

arise in very different areas of analysis, e.g., the theory of nonlinear differential and integral equations, the theory of entire functions. The author uses the operations \mathcal{M}^S and \mathcal{N}^V (defined in the paper) in his constructions; they yield

Cont 1/3

ACCESSION NR: APL031756

the solution of Laplace and Poisson equations in Hilbert space. Using these operations, he shows that (1) is analogous to linear ordinary differential equations and can be reduced to them in one, very special case. He uses harmonic functionals as arbitrary constants and the operation \mathcal{N} as quadrature. A particular solution is obtained from the general with the help of the operation \mathcal{M}^S . In particular, he presents the general solution of

$$\Delta^m F + \Gamma_1 \Delta^{m-1} F + \dots + \Gamma_m F = 0 \quad (2)$$

where Γ_i are harmonic functions, in a particular region of Hilbert space related to the roots of the characteristic equation

$$\lambda^m + \Gamma_1 \lambda^{m-1} + \dots + \Gamma_m = 0 \quad (3)$$

Orig. art. has: 24 formulas.

ASSOCIATION: none

Card 2/3

ACCESSION NR: AP4031756

SUBMITTED: 01Jun61

DATE ACQ: 30Apr61

ENCL: 00

SUB CODE: MM

NO REF SOV: 003

OTHER: 002

Card 3/3

15(1)

AUTHOR: Polishchuk, Ye. M. (Leningrad)

SOV/41.11-1-6/12

TITLE: Isogeneity and Riemannian Metrics

PERIODICAL: Ukrainskiy matematicheskiy zhurnal, 1959, Vol 11, Nr 1, pp 66-82 (USSR)

ABSTRACT: In a somewhat changed point of view the author considers the same questions as in his paper [Ref 5]. Let Γ_p be a bounding cycle (p-dimensional) of the class 1 consisting of p-dimensional simplexes of the class 1. Let Γ_p be defined in a compact orientable space (Euclidean or Riemannian) of the coordinates x_1, x_2, \dots, x_n . On Γ_p the author defines pairs of complex

functionals F and Φ by $F[\Gamma_p] = \int_{C_{p+1}} \dots \int_{C_{p+1}} A_{k_1 \dots k_{p+1}} dx_1^{k_1} \dots dx_{p+1}^{k_{p+1}},$

$\Phi[\Gamma_p] = \int_{C_{p+1}} \dots \int_{C_{p+1}} B_{k_1 \dots k_{p+1}} dx_1^{k_1} \dots dx_{p+1}^{k_{p+1}},$ where C_{p+1} is a simplex

chain with the boundary Γ_p and the A are complex skewsymmetric

Card 1/2

Isogeneity and Riemannian Metrics

SOV/41-11-1-6/12

tensors. If $d\Phi = fdF$, where f is a complex scalar field in E_n , then F and Φ are called isogenic and f is called derivative $\frac{d\Phi}{dF}$. According to [Ref 5] the author gives a geometric interpretation of the modulus g and the argument φ of $\frac{d\Phi}{dF}$, in which g is understood as a homothety coefficient, and φ as a rotational angle of certain fields of pairs of conjugated orthogonal vectors in certain Riemannian spaces. Differential invariants of these spaces are given. There are 5 references, 1 of which is Soviet, 1 Swedish, 1 Italian, 1 French, and 1 English.

SUBMITTED: October 11, 1957

Card 2/2

POLISHCHUK, Ye. M. (Leningrad)

Continuous averages and singular distributions. Teor. veroiat.
i ee prim. 6 no. 4: 465-469 '61. (MIRA 14:11)
(Functional analysis)
(Distribution(Probability theory))

POLISHCHUK, Ye.M.

Functional analogs of the heat conductivity equation.
Sib. mat. zhur. 6 no.6:1322-1331 N-D '65.

(MIRA 18:12)

8(0)

SOV/112-59-2-3225

Translation from: Referativnyy zhurnal. Elektrotehnika, 1959, Nr 2, p 142 (USSR)

AUTHOR: Polishchuk, Ye. S.

TITLE: Influence of Circuit Parameters of an Electrodynamic Phase Meter Upon Its Scale Shape and the Restoring Torque Gradient
(Vliyaniye parametrov skhemy elektrodinamicheskikh fazometrov na formu shkaly i udel'nyy ustanavlivayushchiy moment)

PERIODICAL: Izv. Kiyevsk. politekhn. in-ta, 1957, Vol 22, pp 161-175

ABSTRACT: A basic relation is presented between the turning angle of the moving element of a phase meter and the latter's parameters. Influence of the instrument circuit parameters upon the type of its scale is considered. An expression for the restoring torque gradient is presented, and the influence of instrument circuit parameters upon the variation of this gradient along the scale is demonstrated.

From the author's summary.

Card 1/1

NESTERENKO, A.D.; POLISHCHUK, Ye.S.

Effect of the shape of current and voltage curves on the readings
of the three-coil electrodynamic phasemeters. Izv. KPI 26-457-462
'57. (MIRA 11:6)

1. Kafedra izmeritel'nykh ustroystv Kiyevskogo politekhnicheskogo
instituta.

(Electric meters)

POLISHCHUK, Ye.S.

Errors from mutual inductance in electrodynamic phasemeters for increased frequency and methods of eliminating these errors. Izv. KPI 26:475-483 26:475-483 '57. (MIRA 11:6)

1. Kafedra izmeritel'nykh ustroystv Kiyevskogo politekhnicheskogo instituta.

(Electric meters)

POLISHCHUK, Ye.S., Cand Tech Sci -- (diss) "Measuring the power coefficient at low and high industrial frequencies." Kiev, 1958, 16 pp with illustrations (Min of Higher Education UkSSR. Kiev Order of Lenin Polytechnic Inst. Chair of "Measuring Devices") 150 copies. Bibliography at end of text (10 titles) (KL, 28-58, 107)

- 50 -

POLISHCHUK, Ye.S.

94-1-5/24

AUTHOR: Polishchuk, Ye.S., Engineer.

TITLE: Errors in the Determination of Power Factor of a Three-phase Circuit by the Two-wattmeter Method (Pogreshnosti pri opredelenii koeffitsiyenta moshchnosti trekhfaznoy tsepi po pokazaniyam dvukh vattmetrov)

PERIODICAL: Promyshlennaya Energetika, 1958, No.1, pp. 13 - 14 (USSR)

ABSTRACT: The two-wattmeter method of determining power-factor is inaccurate unless the load is symmetrical. Formulae for the error are derived from the basic equations of the method, expressed in terms of symmetrical components. The equivalent phase-displacement of an asymmetrically-loaded three-phase circuit is the phase-displacement of the star components of direct phase-sequence voltage and current. The formulae depend on the absolute degree of asymmetry and the measured value of the power-factor and also on the phase-displacement between the direct- and reverse-sequence components. Relations between the errors and the measured phase-displacement plotted for various degrees of asymmetry in Fig. 1 are in good correspondence with curves obtained experimentally. If the currents are asymmetrical, the power-factor error can be considerable. There are 2 figures and 1 Russian reference.

Card1/2

POLISHCHUK, Ye.S., inzh.

Errors from indirect methods of measuring the power factor and
phase-shift angle. Izv. vys. ucheb. zav.; energ. no. 1:76-79 Ja '58.
(MIRA 11:7)

1. Kiyevskiy ordena Lenina politekhnicheskii institut.
(Electric engineering)

Polishchuk, Ye S.

NESTERENKO, A.D.; POLISHCHUK, Ye.S.

Some defects of electrodynamic three-winding phase-measuring
instruments. Izv.tekh. no.2:60-64 Mr-Apr '58. (MIRA 11:3)
(Electric measurements)

AUTHOR: Polishchuk, Ye.S.

SOV/21-58-2-16/28

TITLE: On the Choice of an Electrodynamic Phasometer Circuit for Raised Frequencies (K vyboru skhemy elektrodinamicheskikh fazometrov dlya povyshennykh chastot)

PERIODICAL: Dopovidi Akademii nauk Ukraini's'koi RSR, 1958, Nr 2, pp 183-185 (USSR)

ABSTRACT: The main disadvantage of two-frame electrodynamic phasometers, which complicates their application at raised frequencies, is the presence of high additional moments from the mutual inductance which leads to considerable errors. These errors can be reduced by the proper choice of parameters of a phasometer circuit or by the use of three-frame phasometer circuits where the error becomes insignificant. Moreover, the readings of a three-frame phasometer depend only slightly, within certain limits, on the shape of the current and voltage curve and on the frequency fluc-

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SOV/21-58-2-16/28

On the Choice of an Electrodynamic Phasometer Circuit for Raised Frequencies

tuations of the investigated circuits. There are 3 circuit diagrams and 1 Soviet reference.

ASSOCIATION: Kiyevskiy politekhnicheskii institut (Kiyev Polytechnic Institute)

PRESENTED: By Member of the AS UkrSSR, K.K. Khrenov

SUBMITTED: April 15, 1957

NOTE: Russian title and Russian names of individuals and institutions appearing in this article have been used in the transliteration

Card 2/2


9(6)

SOV/146-2-5-8/19

AUTHORS: Ornatskiy, P.P., Candidate of Technical Sciences,
Docent; Ogorelin, M.A., Engineer; Polishchuk,
Ye.S., Candidate of Technical Sciences; Gnatyuk,
V.S., Engineer

TITLE: A Miniature Monophase Ferrodynamic 1.5 Class Phase
Meter,

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Priboro-
stroyeniye, 1959, Nr 5, pp 54-57 (USSR)

ABSTRACT: With the cooperation of the "Tochelektropribor" 
Plant a portable phasemeter was developed by the
Chair of Measuring Devices at the Kiyev Polytech-
nic Institute Order of Lenin. The device is illu-
strated by a diagram (Figure 1) and a photograph
(Figure 3), and the authors discuss its working
principle and design. Errors due to temperature
changes of $\pm 10^{\circ}\text{C}$ and frequency variations of
 $\pm 2\%$ do not exceed 1.5%. This phasemeter was
demonstrated at the International Exhibition in

Card 1/2

POLISHCHUK, Ye.S.; NESTERENKO, A.D.

Basic characteristics of electromechanical phasemeters. *Izv. tekhn.*
no.6:41-44 Je '61. (MIRA 14:5)

(Electric meters)

POLISHCHUK, Yu., kapitan

Mechanics learn to operate equipment. Voen. vest. 42 no.3:
96-97 Mr '63. (MIRA 17:1)

POLISHCHUK, Yu.I.; ROTSHTEYN, G.A., nauchnyy rukovoditel' raboty

Hebephrenic form of schizophrenia. Zhur. nevrr. i psikh. 65 no.8:
1225-1231 '65. (MIRA 18:8)

1. Institut psikhiatrii AMN SSSR, Moskva.

L 17717-66 EPF(n)-2/EWA(h)/EWP(j)/EWT(m)/T/EWA(1) GG/RM/WW

ACC NR: AP6003409

(A)

SOURCE CODE: UR/0190/66/008/001/0026/0030

AUTHORS: Uskov, I. A.; Tertykh, L. I.; Solomko, V. P.; Polishchuk, Yu. N. 54

ORG: Kiev State University im. T. G. Shevchenko (Kiyevskiy gosudarstvennyy universitet); Institute of Physical Chemistry, AN UkrSSR (Institut fizicheskoy khimii AN UkrSSR)

TITLE: Radiation polymerization of methylmethacrylate and styrene in the presence of mineral fillers 1, 44.55 19

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 8, no. 1, 1966, 26-30

TOPIC TAGS: radiation polymerization, styrene, methylmethacrylate, gamma radiation

ABSTRACT: Polymerization of styrene (I) and methylmethacrylate (II) in contact with mineral fillers (silica gel, kaolin, asbestos, glass fiber), inert under ordinary conditions, was studied for the reaction to γ -radiation. It was established that: 1) mineral fillers accelerate the polymerization process and increase molecular weight of homopolymer; 2) during ionization irradiation a grafted polymer is formed on the surface of the filler and held strongly by chemical bond forces; 3) with increased temperature, the yield of homopolymer and the

Card 1/2

UDC: 66.095.26+678.744+678.746 2

S/073/63/029/003/006/009
A057/A126

AUTHORS: Polishchuk, Yu. N., Korniyenko, T. P., Vysotskiy, Z. Z.

TITLE: Polymerization of styrene, vinylacetate, and methyl methacrylate in the presence of alumo-silica gel coatings

PERIODICAL: Ukrainskiy Khimicheskiy zhurnal, v. 29, no. 3, 1963, 325 -329

TEXT: Polymerization kinetics of the radical polymerization in liquid phase were studied with styrene, vinylacetate, and methyl methacrylate in reaction vessels with alumo-silica gel coatings. Also investigated was the effect of xerogels, formed in vapors of the investigated monomer, and the structure-adsorptive and catalytic properties were compared with control samples. The present work was carried out in the Institut fizicheskoy khimii im. L. V. Pisarzhevskogo (Institute of Physical Chemistry imeni L. V. Pisarzhevskiy) in continuation of earlier investigations (Ukr.khim.zhur., v. 28, 1962, 1024) with non-porous coatings. The hydrogel was prepared in the usual manner forming alumosilic acid. Thus the alumo-silica gel surface showed properties of a strong acid. The process with monomer vapors resulted after drying in a yellow-

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Polymerization of styrene,...

S/073/63/029/003/006/009
A057/A126

brown product in case of styrene, in a black product with vinylacetate, and in a colourless product with methyl methacrylate. Adsorption isotherms of methanol vapors on the alumo-silica gel samples treated with styrene or vinylacetate show two characteristics: both curves lie below the control curve and have reproducible hysteresis loops. This is explained by the change of the xerogel surface effected by grafting of polymer chains to it. Thus, a polystyrene skeleton is formed in the pores of the gel. The adsorption isotherm of the methyl methacrylate alumo-silica gel lies above the control sample curve. This difference to the other two samples is in agreement with the colour difference observed, showing thus a connection between the two effects. The prepared alumo-silica gels were applied, powdered ($100 - 250 \mu$) and mixed with water glass, to the inner surface of the reaction vessel. The polymerization was carried out with 1% benzoyl peroxide admixture in nitrogen atmosphere. The technique used was described in an earlier paper (Zh. fiz. khim., v. 25, 1951, 647). A strong effect of the drying method of the alumo-silica gel on styrene and vinyl acetate polymerization kinetics was observed. This effect was especially pronounced for alumo-silica gel coatings dried over CaCl_2 in the monomer vapor. The styrene polymerization is initiated at 85°C , that of vinyl acetate above 65°C .

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Polymerization of styrene...

S/073/63/029/003/006/009
A057/A126

No effect could be observed in methyl methacrylate polymerization, except a shortening of the induction period. The obtained results prove the assumption of the heterogeneous-homogeneous mechanism of the process studied. However, the expected specific polymerization of the monomer effected by the alumo-silica gel was not observed. This effect is apparently restrained by the change of the chemical nature of the surface because of the intensive polymerization occurring on the alumo-silica gel surface. There are 4 figures.

ASSOCIATION: Institut fizicheskoy khimii im. L. V. Pisarzhevskogo (Institute of Physical Chemistry im. L. V. Pisarzhevskiy)

SUBMITTED: January 4, 1962
Card 3/3

S/0021/64/000/005/0607/0609

ACCESSION NR: AP4037445

AUTHOR: Polishchuk, Yu. N.; Korniyenko, T. P.; Zelenchukova, T. G.; Polyakov, M. V.

TITLE: Effect of a solid surface [of additives in suspension] on the radiation-induced polymerization of vinyl compounds

SOURCE: AN UkrRSR. Dopovidi, no. 5, 1964, 607-609

TOPIC TAGS: vinyl, vinyl polymer, vinyl polymerization, radiation-induced polymerization, ionizing radiation, radiation effect, styrene polymerization, gamma-radiation, cobalt-60 source, gamma-ray-induced polymerization, free-radical polymerization, silica gel, MgO_2ZnO

ABSTRACT: The effect of suspended solid additives on gamma-radiation-induced polymerization of styrene was investigated at room temperature. A Co^{60} source with 1600 g-equivalent activity was used. The data showed that in the case of free-radical polymerization of styrene, the very same additives were active that, according to the literature, increase the rate of radiation-induced poly-

Card 1/2

ACCESSION NR: AT4020706

S/0000/63/000/000/0156/0159

AUTHOR: Polishchuk, Yu. N.; Korniyenko, T. P.; Polyakov, M. V.

TITLE: Radiation-induced polymerization of styrene in the presence of solid additives

SOURCE: Karbotsephy*ye vy*sokomolekulyarny*ye soyedineniya (Carbon-chain macro-molecular compounds); sbornik statey. Moscow, Izd-vo AN SSSR, 1963, 156-159

TOPIC TAGS: radiation polymerization, styrene, silicagel, zinc oxide, aluminum silicate, quartz, titanium dioxide, vanadium pentoxide, metallic magnesium, activated charcoal, polymerization catalyst

ABSTRACT: The polymerization of styrene under the influence of γ -rays in the presence of solid additives such as silicagel, zinc oxide, aluminum silicate, activated charcoal, quartz, titanium dioxide, vanadium pentoxide and metallic magnesium was investigated at room temperature. On the basis of polymer yields, the important role of the solid additives in the initiation of the polymer chains was demonstrated. This makes it possible to assume a hetero-homogeneous mechanism for the radiation polymerization of styrene under the conditions investigated. An analogy was observed between the action of some solid additives on ionic radiation polymerization and on the radiation polymerization of styrene proceeding at room temperature. The polymer yields and molecular weights are given for additive

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ACCESSION NR: AT4020706

concentrations of 10-50% (by weight of styrene), at an irradiation dose of 3.5×10^{20} e.v./g.
The polystyrene yield is also plotted against the polymerization time (up to 80 hours).
Orig. art. has: 3 tables and 1 figure.

ASSOCIATION: Institut fizicheskoy khimii im. L.V. Pisarzhevskogo AN UkrSSR (Institute
of Physical Chemistry, AN UkrSSR)

SUBMITTED: 30May62

DATE ACQ: 20Mar64

ENCL: 000

SUB CODE: OC

NO REF SOV: 006

OTHER: 004

Card 2/2

POLISHCHUK, Yu.N.; KORNIYENKO, T.P. [Kornilenko, T.P.]; ZELENCHUKOVA, T.G.
[Zelenchukova, T.H.]; POLYAKOV, M.V.

Effect of a solid surface on the radiation-induced polymerization of
vinyl compounds. Dop. AN URSR no.5:607-609 '64. (MIRA 17:6)

1. Predstavleno akademikom AN UkrSSR A.I.Brodskim [Brods'kyi, O.I.].

POLISHCHUK, Yu.N.; KorniYenko, T.P.; Polyakov, M.V.

Role of the reaction vessel walls in the process of initiated
polymerization of styrene. Ukr.khim.zhur. 28 no.9:1024-1030
'62. (MIRA 15:12)

1. Institut fizicheskoy khimii im. L.V. Pisarzhevskogo
AN UkrSSR. (Polymerization) (Chemical reactors)
(Styrene)

POLISHCHUK, Yu.N.; KORNIYENKO, T.P.; VYSOTSKIY, Z.Z.

Polymerization of styrene, vinyl acetate, and methyl methacrylate in the presence of aluminosilica gel coatings. Ukr.khim.zhur. 29 no.3:325-329 '63. (MIRA 16:4)

1. Institut fizicheskoy khimii imeni L.V.Pisarzhevskogo.
(Polymerization) (Organic compounds) (Aluminosilicates)

S/073/62/028/009/003/011
A057/A126

AUTHORS: Polishchuk, Yu. N., Korniyenko, T. P., Polyakov, M. V.

TITLE: On the effect of the walls of the reaction vessel on the process of initiated styrene polymerization

PERIODICAL: Ukrainskiy khimicheskiy zhurnal, v. 28, no. 9, 1962, 1024 - 1030

TEXT: At the Institut fizicheskoy khimii im. L. V. Pisarzhevskogo AN USSR (Institute of Physical Chemistry imeni L. V. Pisarzhevskiy AS UkrSSR) a detailed study was carried out on the benzoyl peroxide-initiated styrene polymerization kinetics in dependence of the size of the reaction vessel and the surface of its walls. The polymerization was investigated by measuring the temperature rise of the reactants during reaction under nearly adiabatic conditions. Glass ampullas of 8 cm length and different diameters from 12 to 30 mm were used as reaction vessels. Experiments carried out at 85, 90, and 98°C in molybdenum glass vessels showed a considerable increase in the polymerization rate with an increase of the diameter of the vessel from 12 to 24 mm. Thus, a vessel with 24 mm diameter at temperatures below 98°C showed the shortest induction period and maximum

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DAVTYAN, O.K.; MANAKIN, B.A.; MISYUK, E.G.; POLISHCHUK, Yu.N.

Mechanism of oxidation, hydrogenation, and electrochemical combustion on solid catalysts. Part 3: Relation between depolarizing oxides on carbon and platinum and the catalytic effect of the latter in the oxidation of SO_2 . Zhur.fiz.khim. 35 no.6:1186-1191 Je '61.
(MIRA 14:7)

1. Odesskiy gosudarstvennyy universitet imeni I.I.Mechnikova,
kafedra fizicheskoy khimii.
(Electrochemistry) (Catalysts)

COPIANSKY, Ye.V.

Method of linear interpolation in the calculation of phase
separation in light hydrocarbon mixtures. Khim. prom. 11
no.10:773-774 0 '65. (MIRA 18:11)

POLISHCHUK, Z.K.; KIRILLOV, S.P.; DROZDOV, V.M.

Concerning B.P. Barkhatov's note "Hasty conclusions on lower
Paleozoic stratigraphy of the Pamirs." Izv. Otd. geol.-khim.
i tekhn. nauk AN Tadzh. SSR no.1:129-132 '59. (MIR' 14:8)
(Pamirs--Geology, Stratigraphic) (Barkhatov, B.P.)

POLISHEVSKAYA, P.A.; ROZANOV, M.I.

Work of a basic laboratory. Izv.tekh. no.5:57-59 Wj '62.
(MIRA 15:6)

(Latvia--Testing laboratories)

POLISHKIN, A.A., inzh.

Improve the utilization of agricultural machinery and tractors.
Trydy MIMESH 5 no.1:65-88 '58. (MIRA 13:10)
(Agricultural machinery)
(Tractors)

POLISHKIN, A.A., prepodavatel'

Increase the productivity of the SK-2,6 combine. Mekh. sil'sk. hosp.
12 no.7:7 J1 '61. (MIRA 14:6)

1. Melitopol'skiy institut mekhanizatsii sel'skogo khozyaystva.
(Combines (Agricultural machinery))

ZEL'MAN, A.S.; POLISHKIN, A.A.; SHEPEL', N.M.

For accurate fueling of diesel tractors. Mekh. sil'. hosp.
12 no.9:19 S '61. (MIRA 14:11)

1. Melitopol'skiy institut mekhanizatsii sel'skogo khozyaystva.
(Diesel engines--Fuel systems)

POLISHKIN, O.A., starshiy prepodavatel'

What the over-all mechanized crews should be. Mekh. sil'. hosp.
12 no. 3:8 Mr '61. (MIRA 14:4)

1. Melitopol'skiy institut mekhanizatsii sel'skogo khozyaystva.
(Farm mechanization)

POLISHVAYKO, I.Z.; DEMIDENKO, I.G.

Practices of collective farms in the use of fertilizers. Zemledelie
27 no.11:55-58 N '65. (MIRA 18:10)

1. Nachal'nik Upravleniya khimizatsii Ministerstva sel'skogo
khozyaystva UkrSSR (for Polishvayko). 2. Glavnyy agronom
Upravleniya khimizatsii Ministerstva sel'skogo khozyaystva
UkrSSR (for Demidenko).

ACC NR: AP6004973 (A,N) SOURCE CODE: UR/0349/65/000/011/0055/0058

AUTHOR: Polishvayko, I. Z. (Chief); Demidenko, I. G. (Chief agriculturist)

ORG: Applied Chemistry Board MSKh Ukr SSR (Upravleniya khimizatsii MSKh Ukr SSR)

TITLE: Experience of kolkhozes with fertilizers

SOURCE: Zemledeliye, no. 11, 1965, 55-58

TOPIC TAGS: fertilizer, agriculture crop

ABSTRACT: Ukraine SSR, which has considerable peat resources, plans to increase its yearly production of organic fertilizers to 180 to 200 million tons. In 1965 the kolkhozes and sovkhoses of the Ukraine received 5.5 million tons of mineral fertilizers representing an increase of 800,000 tons over the previous year. In Ukraine's forest zone grain, industrial and other crops are grown. In the forest steppe zone sugar beet, hemp, and vegetable crops are grown in addition to grain. In the steppe zone, where the precipitation is much less than in the forest and forest steppe zones, winter wheat, sunflower, corn and melon crops are grown. The greater part of the mineral and organic fertilizers is introduced during fall plowing. All crop yields have increased with the use of fertilizers. With the application of $N_{40}P_{40}K_{40}$, winter wheat crop production has increased by 4 to 6 centners/hectare in the forest zone, by 3 to 5 centners/hectare in the forest steppe zone, and by 4

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UDC: 631.8

ACC NR: AP6004973

centners/hectare in the steppe zone. Kolkhoz im. Zhdanov (L'vov Oblast) and kolkhoz im. Parkhomenko (Ternopol'sk Oblast) are cited as models in the use of fertilizers and their crop production figures are given. Orig. art. has: 1 table.

SUB CODE: 06, 02/ SUBM DATE: none

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POLISHVAYKO, M.N.: "A comparative study of the biological properties of the varieties of sainfoin cultivated in the right-bank forest steppe of the Ukraine". Belaya Tserkov', 1955. Belaya Tserkov' Agricultural Inst, Chair of Selection and Seed Raising. (Dissertations for the Degree of Candidate of Agricultural Sciences)

SO: Knizhnaya letopis' No 44, 29 October 1955. Moscow.

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KAGANOVITS, I., kand. ekon. nauk, red.; KULL, E., kand. ekon.
nauk, red.; MUREL, R., red.; RANNIK, E., red.; VINT, E.,
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[Economic life of Soviet Estonia, 1940-1960] Nõukogude Eesti
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1960. 478 p. (MIRA 16:6)

1. Eesti NSV Teaduste Akadeemia. Majanduse Instituut. 2. Chlen-
korrespondent AN Estonskoy SSR (for Antons).
(Estonia--Economic conditions)

POLIS'KIY, N.M.

Diagnostic significance of the C/N coefficient in urine in malignant neoplasms. Medych.shur.24 no.3:86-90 '54 (MLRA 8:10)

1. Kiivs'kiy medichniy institut, gosptal'na terapevtichna klinika, i Kiivs'ka klinichna likarnya vodnykiv.

(NEOPLASMS, urine in,

carbon-nitrogen ratio, diag.value)

(URINE,

carbon-nitrogen ratio in neoplasms, diag.value)

(CARBON, in urine,

carbon-nitrogen ratio in neoplasms, diag.value)

(NITROGEN, in urine,

carbon-nitrogen ratio in neoplasms, diag. value)

YERMOLOV, L.S.; ISICHENKO, I.A.; POLISSKIY, A.Ya.; TROFINOV, V.L.;
LAZARENKO, A.I., red.

[Repairing parts of SMD engines] Vosstanovlenie detalei
dvigatelei SMD. [By] I.S.Ermolov i dr. Kiev, Urozhai,
1965. 377 p. (MIRA 18:8)

POLISSKIY, N. Ya.; MALOZHIPENKO, V. M.

Lathes

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